DOCUMENT RESUME

ED 021 250 CG 001 589

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PLAYFULNESS AND NONPLAYFULNESS IN HIGH-SCHOOL STUDENTS TRAIT COMPOSITION AND EDUCATIONAL IMPLICATIONS.

City Univ. of New York, N.Y. Brooklyn Coll.
Spons Agency- National Inst. of Mental Health (DHEW), Bethesda, Md.
Note- 15p.
EDRS Price MF-$0.25 HC-$0.68
Descriptors- ACADEMIC ACHIEVEMENT, ADOLESCENTS, *BEHAVIOR PATTERNS, *CLASSROOM PARTICIPATION, *HIGH SCHOOL STUDENTS, TEACHER RATING

The identification, measurement, and composition of playfulness (pf) and its complementary trait, nonplayfulness (nonpf), as well as the influence of sex, age, grade, and subject matter area on this behavior is the focus of this research. High school students representing above average, average, below average, and heterogeneous achievement levels were evaluated on a rating scale for pf-nonpf by their teachers who used their own conceptualization of the traits. There emerged a two-factor syndrome in adolescents as observed in the classroom setting. Factor 1, composed of physical mobility and friendliness, was called "social-emotional playfulness." Factor 2, with its alertness and intellectual curiosity, was labeled "academic playfulness." The latter is more teacher-approved. Shop, English, and modern languages classes tended to have the highest mean of playfulness. Boys were rated more playful than girls. Suggestions for future follow-up include using such behavior correlates for clues to cognitive functioning and learning potential. (PH)

Playfulness and Nonplayfulness in High-School Students: Trait Composition and Educational Implications *

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The research reported here is part of a long-term investigation of motivational variables as clues to cognitive style. In a theoretical paper (Lieberman, 1967), it had been hypothesized that playfulness as a quality of play in young children survives play and later on becomes a personality trait of the player. Moreover, since combinatorial play has consistently been named as one of the variables in creative thinking, a relationship between playfulness and divergent thinking was tested at the kindergarten level and findings of this study confirmed the hypothesis (Lieberman, 1965).

While early identification of creative potential is, of course, a major concern of psychologists and educators, the question of what happens to this potential at later educational levels is of equal, if not greater, importance to the development of abilities.

In our present investigation the focus was on the adolescent since theoretically and empirically playfulness is part of the adolescent's behavior pattern as shown in the work of Piaget, Getzels and Jackson, and Torrance. We narrowed the area of observation to the high-school classroom because our first

* Research carried out under PHS Research Project Grant 14426-01 from the National Institutes of Mental Health.

concern was to establish whether playfulness is part of classroom behavior and if so, how it can be identified and whether it can be measured. To recognize these behavior tendencies in the classroom for constructive utilization in the learning process was the major rationale for this approach.

The present paper deals with the composition of playfulness and its complementary trait, nonplayfulness, in high-school students as well as with the influence of sex, age, grade and subject matter area on this behavior.

Subjects and Procedure

The subjects were 338 boys and 272 girls from grades nine through twleve, ranging in age from 13.1 to 19.3, and representing four achievement levels--above average, average, below average, and heterogenous. The students were drawn from seven New York City and two suburban schools.

The measure of evaluation was a five-point rating scale for playfulness-nonplayfulness, consisting of ten subscales, and two unrelated (ringer) questions (see Hand-out). The instrument had been formulated on the basis of criteria supplied by 115 JHS and HS teachers and checked against criteria established by the investigator and four fellow-psychologists.

Twenty-two teachers rated 27 different class groups, representing seven subject matter areas on two successive occasions. Before the second rating session, the teachers were also asked to rank their students according to their own global conceptualization of playfulness-nonplayfulness.

Results

A principal components factor analysis with varimax rotation to four factors was performed on the test scores, age, sex and grade of student, and sex of teacher (see Table 1 of Hand-out). Since the population was heterogenous, .60 was adopted as a cut-off point for a factor loading. Two distinct and psycchologically meaningful factors emerged for pf-nonpf. The first factor is made up of physical mobility-physical rigidity, spontaneous joy-tenseness, humor-lack of humor, group orientation-self orientation, friendliness-rejection, play-conscientiousness. The other factor consists of physical alertness (energy)-physical apathy, enthusiasm-discouragement, intellectual curiosity-intellectual stagnation, and the ringer question assessing ambition (achievement-orientation)-indifference. Age and grade of student, and sex of student and sex of teacher emerged as two separate factors, unrelated to each other and to the two playfulness-nonplayfulness factors.

Two one-way analyses of variance assessed the influence of subject matter area and type of school on pf-nonpf ratings. Differences among subject matter area were significant at the .01 level for all scales except for physical alertness (IB) which had a significance level of .025 and enthusiasm (IIA) which was not significant. No significant differences were found between urban and surban type of school.

The Kuder-Richardson formula gave an internal reliability of .87 for test and .90 for re-test, respectively. Test-retest reliability, giving a measure of stability over time, was .82 for total test, with mean item reliability at .64 (range was from .55 for IIIB -Wit to .68, the latter for three scales, namely, IA, IIB and VA).

Interrater reliability on a subsample of 158 subjects showed an item mean of only .38.

Validity coefficients obtained between total test and re-test scores and teacher rankings were .69 and .76, respectively. Mean item validity was .47, with a range from .32 for IIA (Enthusiasm-Discouragement) to .63 for IIIA (Humor-Lack of Humor).

Conclusions

The most significant finding is the emergence of a two-factor syndrome in pf-nonpf in adolescents as observed in the classroom setting. Factor 2 with its saturation of alterness, enthusiasm and intellectual curiosity was labeled "academic playfulness", while Factor 1, composed of physical mobility, spontaneous joy, humor, group orientation, friendliness, and play (erratic behavior) was called "social-emotional playfulness." In a further interpretation, academic playfulness was considered "situation-specific" and social-emotional playfulness "situation-spanning." Futther work testing pf-nonpf in a leisure-type setting will shed more light on this suggested dichotomy.

Looking now more closely at the educational implications of our findings, one might call academic pf the teacher-approved type of pf. This interpretation is supported by the high saturation of the factor with the finger question of achievement-orientation. It is also worth noting that the only significant negative loading is shown under Factor 2, namely, play (erratic behavior)-conscientiousness. Interestingly, in our present follow-up work using a trait list as a measuring instrument for pf-nonpf, conscientiousness shows a nonsignificant relationship

to nonpf and the direction is negative. It might, therefore, be necessary to reconsider the inclusion of conscientous as a trait dimension. Wit (Scale IIIB) is another dimension that reflects on classroom climate. It showed about equal loadings on the academic and socil-emotional factors of pf, neither of which reached the cut-off point of .60, for meaningful psychological interpretation. Perhaps such behavior might either be too difficult to observe by the classroom-teacher or too threatening for the classroom-climate to be allowed free play.

In the planned follow-up, measures of divergent and convergent thinking will be correlated with the two separate clusters of pf-nonpf, and it will be interesting to find out whether the youngster more concerned with excellence in grades and tests would also be the youngster high on convergent ability, and whether social-emotional playfulness might relate more to the divergent thinker. In line with the Wallach and Kogan's findings (1964), we might, of course, find a high-intelligent: high-creative group that would score high on both types of pf-nonpf.

One brief reference to the finding of significant differences acoording to subject matter area. Rankings by mean showed shop to be highest followed by English and Modern Languages, and the lowest rankings taken up by Mathematics and Secretarial Studies. This raises the question of how much "play" is allowed within any given subject matter area and/or by individual teachers. Also, although sex differences did not reach significance, the trend was for boys to be rated more playful than girls, which may be reflected in the fact that Shop is ex-

clusively made up of boys and Secretarial Studies primarily of girls. It is hoped to pursue this angle of investigation with personality tests and interaction measures in the classroom.

In summary, this report attempted to show a way of assessing classroom behavior and differentiating students along a dimension called playfulness-nonplayfulness, with a view of utlimately using such behavioral correlates for clues to cognitive functioning and learning potential.

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PLAYFULNESS-NONPLAYFULNESS SCALE
Form (A)

J. Nina Lieberman

RATING INSTRUCTIONS

As you look at adolescents in a classroom setting, you realize that they differ in the way they move about, address themselves to their tasks, and interact with peers and teachers.

In this study we are trying to assess how much spontaneity can be found in the behavior of high-school students in the classroom. Also, how cheerful and how "full-of-the-devil" these youngsters are.

Attached you will find a rating measure made up of five scales which refer to a student's behavior in class. You will note that each of the five scales or questions has two parts. Part A of the question aims at measuring the frequency or quantity of the trait; Part B tries to assess the quality of the trait shown. For example, "how consistently does the student show a sense of fun?" would be the quantity of the trait, "and how much is wit and subtlety a part of his sense of humor?" would be the quality of the trait.

We hope that we shall have your cooperation in this work and that you will find it possible and worthwhile to look at the students in your classroom along the traits suggested in the rating scales and give us your evaluation of them.

We are also interested in finding out what your impression is of the student's achievement orientation and physical attractiveness and would like you to give us your estimate of these as well.

When you rate the students, you will, of course, want to compare them with one another as well as keep in mind a general standard for these traits in adolescents in the high-school setting.

It is easier and better to rate all students first on one trait or question and then do the same for the six others. The rating scales have, therfore, been set up for one trait per page.

PLEASE CIRCLE THE FIGURE THAT BEST INDICATES YOUR EVALUATION OF THE STUDENT'S PRESENT STANDING.

A PROFILE IS GIVEN AT THE EXTREME ENDS OF EACH SCALE AS AN AID IN MAKING YOUR RATING. THE SCALE IS TO BE REGARDED AS A CONTINUUM AND THE IN-BETWEEN NUMBERS SHOULD BE USED TO INDICATE DEGREES IN FREQUENCY AND INTENSITY.

Any comments about the content or form of the questions, or about any difficulties that you may have in answering them, will be welcomed.

Thank you for your help in this study.

PF-NCHPF (A)

Name of Student:
Grade (or Level):
Subject:
Teacher:
School:

Scale
IA. How consistently does the student show spontaneous physical movement and activity in class?

Physically on the move — Physically rigid

5 — 4 — 3 — 2 — 1

This is the student who moves around a lot, likes to change his seat has trouble settling down, fidgets with things, mischievously throws objects.

This is the student who sits stiffly, with a tense facial expression, and a rigid manner.

Scale
IB What degree of energy does the student show in physical activity?

Physically alert — Physically apathetic

5 — 4 — 3 — 2 — 1

This is the student who has an animated and alert facial expression, waves his hand to be recognized, uses gestures freely to underline a point, nods in response to teacher's points.

This is the student who slumps in his seat, looks sluggish. and sleepy, yawns, stares into space.

PF-NONPF (A)

Name of Student:
Grade (or Level):
Subject:
Teacher:
School:

SCALE
IIA

How consistently does the student show enthusiasm during classroom activities?

Enthusiastic — Discouraged

5 — 4 — 3 — 2 — 1

This is the student who is eager and enthusiastic in his approach to work, optimistic and high-spirited.

This is the student who needs reassurance, is unhappy and sullen, gets easily discouraged, is unsure of himself.

SCALE
IIB

With what ease (freedom) does the student show joy?

Relaxed (Spontaneous) — Tense (Constricted)

5 — 4 — 3 — 2 — 1

This is the student who is relaxed, boisterous, chuckles and laughs, can express feelings freely, sometimes unpredictably.

This is the student who is tense, quiet, rarely laughs lacks spontaneity, stereotype in reactions (you just know what he is or is not going to do next)

TF-HONF (A)

Name of Student:
Grade (or Level):
Subject:
Teacher:
School:

SCALE
IIIA How consistently does the student show a sense of fun (humor) in class?

Fun-loving — Humorless

5 — 4 — 3 — 2 — 1

This is the student
who is the entertainer,
who constantly makes jokes,
enjoys horseplay,
clowns,
engages in cross-sex
teasing.

This is the student
who becomes irritable
in a fun situation,
who is anxious to get
back to the "real
business"--the lesson,
who fails to see the
funny side of
situations.

SCALE
IIIB How much is wit and subtlety a part of his sense of humor in class?

Accepting in wit — Hostile in wit

5 — 4 — 3 — 2 — 1

This is the student
who recognizes, and searches for,
the humor in situations,
can take teasing and teases others,
including the teacher,
who uses wit in puns, off-beat
comparisons, and sometimes
slightly off-color remarks.

This is the student
who laughs at the dis-
comfort of others,
gets angry when he
himself is the butt
of a joke,
hits back with insults
when teased.

PF-NONPF (A)

Name of Student:
Grade (or Level):
Subject:
Teacher:
School:

SCALE
IVA

How consistently is the student engaged in interaction with peers in class?

Group-oriented — Self-oriented

5 — 4 — 3 — 2 — 1

This is the student who is busy passing notes, talking to neighbors, seeking attention also by pushing and shoving, and calling out in class.

This is the student who keeps to himself, "a loner", does not respond to classmates, and does not, on his own, seek association with them.

SCALE
IVB

What is the tone or quality of the involvement with peers in class?

Friendly — Rejecting

5 — 4 — 3 — 2 — 1

This is the student who is outgoing, friendly, able to move from one group to another.

This is the student who gets easily hurt, is on the defensive with others, wants to hurt others uncooperative.

PF-NOMPF (A)

Name of Student:
Grade (or Level):
Subject:
Teacher:
School:

SCALE VA

How consistently does the student show spontaneity in intellectual tasks in class?

Intellectually alive — Intellectually stagnant

5 — 4 — 3 — 2 — 1

This is the student who is curious, inventive, volunteers frequently, introduces relevant and sometimes far-out material in questions and answers.

This is the student who approaches work in a routine and mechanical way, does not volunteer in class, and, when called upon, does not respond, sometimes daydreaming or appearing bored.

SCALE VB

What is the quality of the student's work involvement in class?

Erratic — Conscientious

5 — 4 — 3 — 2 — 1

This is the student more concerned with play than work, bored with the regular classroom atmosphere, and off in his own world, sometimes asking questions to disrupt the lesson.

This is the student who is conscientious, completes his assignments, takes his work seriously-sometimes too seriously.

PF-NOTF (A)

Name of Student:
Grade (or Level):
Subject:
Teacher:
School:

SCALE
VI

How achievement-oriented is the student?

Ambitious — Indifferent

5 — 4 — 3 — 2 — 1

This is the student whose whole attention is on excellence as shown by grades and tests.

This is the student who cares little or nothing about his academic standing in class.

SCALE
VII

How attractive is the student physically?

Beautiful (Handsome) — Plain (Unattractive)

5 — 4 — 3 — 2 — 1

This is the student who is exceptionally good-looking.

This is the student who is homely and unattractive.

TABLE 1

Rotated Factor Matrix for PF-nonPF and Ringer Scales, CA, Sex of Student, Grade and Sex of Teacher (N=610)

		Pattern loadings from Varimax rotations to best fit				Communality
	Rating	A	B	C	D	h^2
IA	Physical mobility-Physical rigidity	851	-050	-059	-023	732
IB	Physical alertness-Physical apathy	412	687	-057	-087	653
IIA	Enthusiasm-Discouragement	203	828	-025	005	727
IIB	Spontaneous joy-Tenseness	735	451	006	-023	746
IIIA	Humor-Lack of humor	803	278	021	-041	724
IIIB	Friendly wit-Hostile wit	502	413	102	-077	439
IVA	Group orientation-Self orientation	830	124	-071	077	714
IVB	Friendliness-Rejection	601	448	119	061	581
VA	Intellectual curiosity-Stagnation	213	810	-043	-068	707
VB	Play-Conscientiousness	669	-484	-105	-059	697
VI	Achievement orientation-Indifference	-260	825	-064	037	754
VII	Attractiveness-Homeliness	198	349	142	156	206
	CA	-035	-041	951	-019	908
	Sex of student	-098	-012	020	803	661
	Grade level	-014	016	948	-069	903
	Sex of teacher	066	009	-161	737	574

Note.--Decimal points have been omitted.